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THE FARM INDEX

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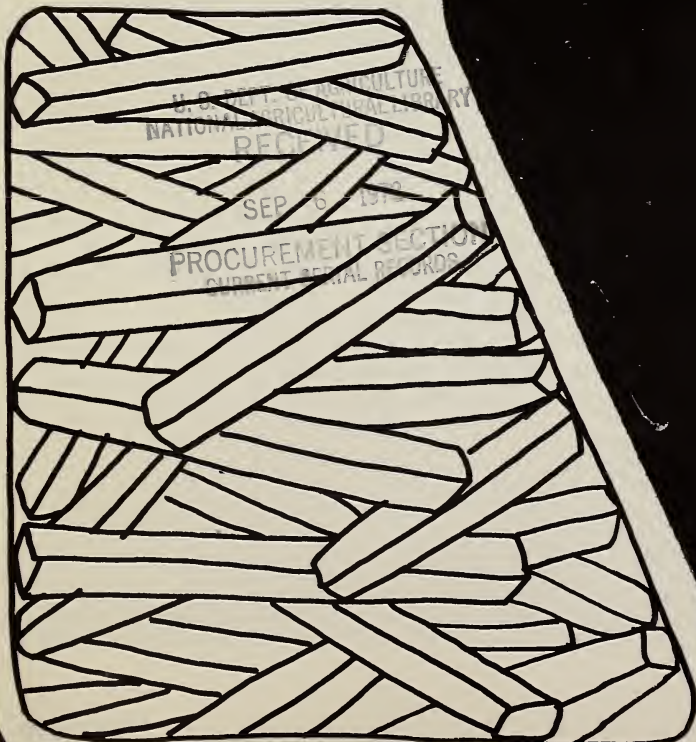
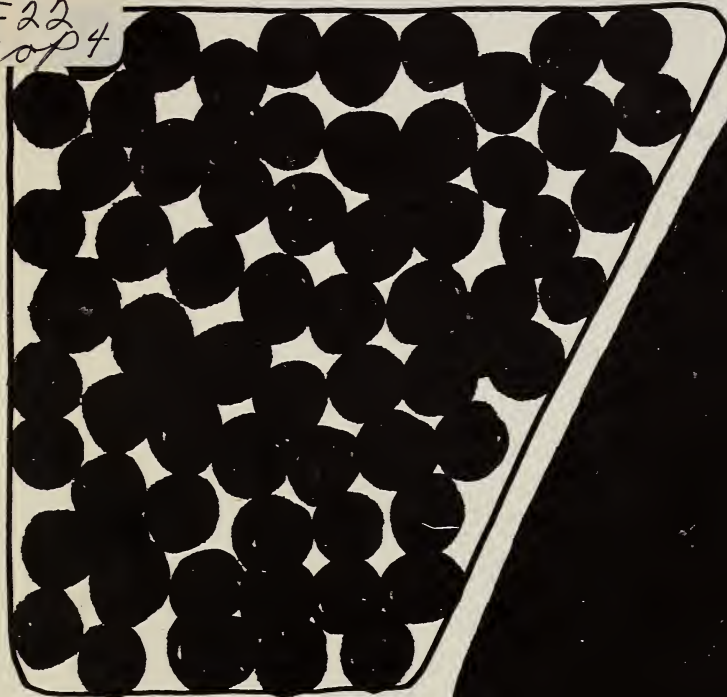
Social Security:
Figuring Up the Benefits

Food and the Future

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**poultry
on the
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ECONOMIC TRENDS

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1965		1966		
			YEAR	DECEMBER	OCTOBER	NOVEMBER	DECEMBER
Prices:							
Prices received by farmers	1910-14=100	242	248	259	266	259	258
Crops	1910-14=100	223	232	224	233	230	230
Livestock and products	1910-14=100	258	261	290	294	284	282
Prices paid, interest, taxes and wage rates	1910-14=100	293	321	324	337	337	337
Family living items	1910-14=100	286	306	309	318	318	318
Production items	1910-14=100	262	276	278	287	286	286
Parity ratio		83	77	80	79	77	77
Wholesale prices, all commodities	1957-59=100	—	102.5	104.1	106.2	105.9	105.9
Commodities other than farm and food	1957-59=100	—	102.5	103.2	105.3	105.5	105.5
Farm products	1957-59=100	—	98.4	103.0	104.4	102.5	101.8
Food, processed	1957-59=100	—	105.1	109.4	112.4	110.7	110.6
Consumer price index, all items	1957-59=100	—	109.9	111.0	114.5	114.6	—
Food	1957-59=100	—	108.8	110.6	115.6	114.8	—
Farm Food Market Basket: ¹							
Retail cost	Dollars	983	1,042	1,063	1,114	1,100	—
Farm value	Dollars	388	409	441	435	421	—
Farm-retail spread	Dollars	595	633	622	679	679	—
Farmers' share of retail cost	Per cent	39	39	41	39	38	—
Farm Income:							
Volume of farm marketings	1957-59=100	—	119	134	172	170	130
Cash receipts from farm marketings	Million dollars	32,247	39,187	3,782	5,122	4,784	3,700
Crops	Million dollars	13,766	17,334	1,775	2,775	2,638	1,700
Livestock and products	Million dollars	18,481	21,853	2,007	2,347	2,146	2,000
Realized gross income ²	Billion dollars	—	44.9	45.9	—	—	51.1
Farm production expenses ²	Billion dollars	—	30.7	31.2	—	—	34.6
Realized net income ²	Billion dollars	—	14.2	14.7	—	—	16.5
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	6,229 ³	648	622	698	—
Agricultural imports	Million dollars	3,977	4,088 ³	428	388	359	—
Land Values:							
Average value per acre	1957-59=100	—	139	145 ⁴	—	157	—
Total value of farm real estate	Billion dollars	—	159.4	165.4 ⁴	—	179.7	—
Gross National Product: ²							
Consumption ²	Billion dollars	457.3	681.2	704.4	—	—	759.1
Investment ²	Billion dollars	294.2	431.5	445.2	—	—	474.4
Government expenditures ²	Billion dollars	68.0	106.6	111.9	—	—	118.0
Net exports ²	Billion dollars	92.4	136.2	141.2	—	—	161.9
	Billion dollars	2.7	7.0	6.1	—	—	4.8
Income and Spending: ⁵							
Personal income, annual rate	Billion dollars	365.3	535.1	558.2	594.4	598.5	601.5
Total retail sales, monthly rate	Million dollars	17,098	23,662	24,816	25,550	25,706	25,362
Retail sales of food group, monthly rate	Million dollars	4,160	5,577	5,956	5,949	5,941	—
Employment and Wages: ⁵							
Total civilian employment	Millions	64.9	72.2	73.4	74.2	75.1	75.2
Agricultural	Millions	6.0	4.6	4.5	4.0	4.1	4.3
Rate of unemployment	Per cent	5.5	4.6	4.1	3.9	3.7	3.8
Workweek in manufacturing	Hours	39.8	41.2	41.3	41.4	41.3	41.4
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.61	2.66	2.75	2.76	2.77
Industrial Production: ⁵							
1957-59=100		—	143	149	159	159	159
Manufacturers' Shipments and Inventories: ⁵							
Total shipments, monthly rate	Million dollars	28,745	40,279	42,622	44,487	44,503	—
Total inventories, book value end of month	Million dollars	51,549	68,015	68,015	75,788	76,854	—
Total new orders, monthly rate	Million dollars	28,365	41,023	43,868	45,243	44,176	—

¹ Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1960-61—estimated monthly. ² Annual rates seasonally adjusted fourth quarter. ³ Preliminary. ⁴ As of November 1. ⁵ Seasonally adjusted.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and

Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

THE AGRICULTURAL OUTLOOK

Realized net farm income in 1966 reached \$16.3 billion (preliminary estimate), some \$2.1 billion higher than in 1965, and the highest on record except for 1947. Cash receipts from marketings were up \$3.7 billion from 1965 and government payments increased by \$800 million. About three-fourths of the increase in marketing receipts came from sales of livestock and products.

Realized gross farm income was a record high \$49½ billion—up \$4.6 billion from 1965. Some of this bulge in gross income was offset by a larger-than-usual rise in production expenses of \$2.5 billion, leading to a new high of \$33.2 billion as the cost of running the farm business.

Realized net income per farm in 1966 averaged \$5,024, compared with \$4,210 in 1965. Last year's record level was about 70 per cent higher than in 1960 due to the increase in farm income and the continued decline in farm numbers.

COMMODITY HIGHLIGHTS

Fed beef output will continue large during the first few months of 1967. There were 7 per cent more cattle and calves on feed January 1 than a year earlier.

Most of the increase was recorded in the heavier weight groups. Also, there was a larger gain in the number of steers on feed (up 8 per cent) than the number of heifers (up 5 per cent).

Cattle feeders in the fourth quarter of 1966 marketed 8 per cent more fed cattle than a year earlier; fed cattle prices averaged 3 per cent below third-quarter prices and 6 per cent below year-earlier levels.

Cattle feeders intend to market 8 per cent more fed cattle in the first quarter this year than last. Since the number of cattle on feed weighing more than 900 pounds was 14 per cent above a year earlier, fed beef production this winter will likely be up considerably.

Thus, the expected high rate fed beef production will probably forestall substantial strength in fed cattle prices, particularly over the next few months. Also, the continued high rate of

pork and broiler output will keep beef and cattle prices under pressure.

The number of cattle on feed weighing less than 900 pounds on January 1 was up slightly more than 4 per cent from a year earlier, in comparison with the 14-per cent rise for heavier weight groups. This indicates that the rate of increase in marketings over year-earlier levels may shrink as the year progresses if placements on feed are not increased sharply.

Turkey producers probably will raise 5 to 10 per cent more turkeys this year than last. Turkey supplies will be up even more because cold storage holdings of turkey on January 1 totaled 273 million pounds, 73 million above those at the beginning of 1966.

Much of the increase in turkey production in 1967 will occur during the first half of the year. Poult hatchings in the five months through January, although seasonally small, will provide most of the turkeys to be marketed in January-June. Hatchings through January were up about a third from a year earlier. Turkey breeder hens on January 1 probably numbered 5 to 10 per cent above a year earlier, judging from the number of turkeys tested for Pullorum disease in recent months.

Larger turkey supplies, together with greater competition from broilers and pork, are expected to result in turkey prices averaging below the relatively high levels of a year earlier, at least through midyear. The U.S. farm turkey price in January-June 1966 averaged 23.8 cents per pound.

Broiler prices in 1966 declined from 16.1 cents per pound of liveweight in mid-July to 11.9 cents in mid-December, or from 0.6 cent above to 2.7 cents below a year earlier. The weakening was partly seasonal, but resulted mostly from large and expanding supplies of broilers and pork. Federally inspected broiler slaughter in October-December of 1966 ran more than a tenth above the level of a year earlier.

Around the turn of the year, however, broiler prices strengthened as chain stores resumed the specializing of chicken. Wholesale prices for ready-to-cook broilers in Chicago for the week beginning January 16 averaged 25.7 cents per pound, up about 3 cents from mid-December but still 2 cents below a year earlier.

Broiler prices are expected to be fairly well maintained at least over the next three months, because producers are reducing the rate of production expansion. Broiler chicks placed in leading production areas during the nine weeks through January 7 were 4 per cent above a year earlier, and egg settings during the three weeks through January 7 were up 2 per cent. Thus, first quarter production will be up from a year earlier by less than half as much as in the last quarter of 1966. However, broiler prices for the first half of 1967 may not equal the relatively high prices of a year earlier because of increasing competition from pork and turkeys.

Broiler hatchery supply flocks during the first half will probably be much larger than a year earlier. This means that there is a potential and greater incentive, now that prices have improved, for a step-up in the rate of production expansion. Therefore, broiler chick placements are expected to climb further above year-earlier levels in coming months.

Egg production expansion seems certain; a large buildup is underway in laying flocks. On January 1, potential layers (layers plus pullets not laying) totaled 368 million, up nearly 4½ per cent from a year earlier. Also, the hatch of replacement pullet chicks in November and December was record large, totaling 41 million, more than a fourth above a year earlier.

The buildup in laying flocks is expected to result in at least a 3 to 4 per cent increase in egg production this year. First half production likely will be up by a wider margin. The increase for the whole year likely will be the biggest in more than a decade.

The more plentiful supplies are likely to cause farm egg prices in 1967 to average much below the relatively high levels of 1966. Farm prices last year averaged the highest since 1956, above 5 cents per dozen above the 33.7 cents that prevailed during 1965.

The wheat supply in the 1966/67 marketing year is put at 1,848 million bushels, about 286 million below a year earlier, based on the December crop report.

Exports during July-December 1966, the first half of the marketing year, are estimated at 430 million bushels, about 35 million above the same months in 1965. The rate of export movement is likely to slacken during the second half of the year and the carryover on June 30, 1967 probably will be around 400 million bushels.

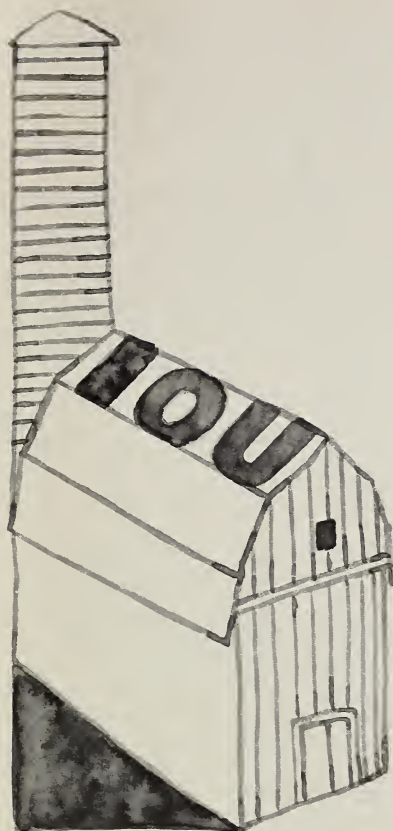
The season-average price received by farmers for wheat during 1966/67 is estimated at \$1.64 per bushel, compared with \$1.35 a year earlier. The national average loan rate for both these years was \$1.25 per bushel. Allowing for the marketing certificate payments made to farmers participating in the wheat program, the average return per bushel for all farmers was \$1.71 for the 1965 crop and is estimated at \$2.14 for the 1966 crop.

The winter wheat crop, for harvest in 1967, was estimated at 1,283 million bushels, based on December 1 conditions. If realized, this would be the largest winter wheat crop of record.

Planted acreage was indicated at 54.1 million with a yield of 23.7 bushels per acre. Acreage is 26 per cent above a year earlier and the largest since 1952, the last crop seeded without acreage allotments. The national acreage allotment for 1967 is 68.2 million acres. Assuming that spring wheat producers respond similarly to the winter wheat producers, a total crop of around 1.6 billion bushels is likely for 1967.

Rice yields per acre in 1966 were record high and harvested acreage was the largest since 1954. Production totaled 85.1 million hundred-weight (cwt.), the most on record and nearly 9 million above 1965.

The total supply for 1966/67 is nearly 94 million cwt. (rough basis). Exports are expected to exceed the previous year's record of 43.3 million cwt., and domestic use will likely rise slightly from the 31.8 million cwt. of a year earlier. Thus, year-end carryover will probably total close to the 8.2 million cwt. that was registered as of August 1, 1966.



Farmers Home Administration (FHA).

At the time of their first loan PCA borrowers generally had larger farms than FHA borrowers. The FHA group had relatively small equities; some of the FHA group were young farmers just starting out. Half of each sample group had repaid as scheduled, the other half had trouble doing so.

For both PCA and FHA borrowers certain factors appeared to be definitely related to timely repayment:

PCA borrowers who repaid promptly had more farming experience, fewer creditors and were more likely to own their own farms than those who had difficulty in repaying.

FHA borrowers making timely repayment had smaller families, higher living standards and a lower ratio of planned debt payment to estimated net cash income than FHA borrowers who had not repaid as planned.

Both FHA and PCA borrowers were more likely to repay promptly if their short-term debts were a small part of their total debts.

Collateral was not found to be useful in predicting repayment. Although frequently used as a prime criterion for approving loans, its principal value is in serving as insurance in case of default. A lender sure of repayment would probably be less concerned about collateral. (1)

Necessity Spurs Modernization Of Credit Arrangements for Farmers

Banks and other institutions that lend money to farmers are re-gearing their loan departments to meet the needs of today's more expensive farm operation.

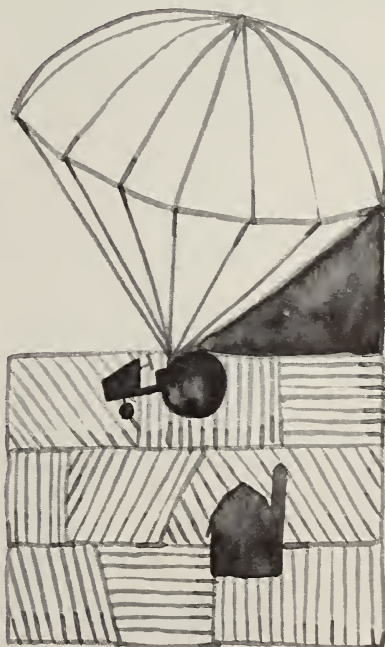
Farmers need more cash than ever before. For one thing, costs of farm inputs have climbed 20 per cent since 1950. And many farmers have changed their atti-

tude about debt—they're now more willing to assume indebtedness in order to increase their chances for success.

Since much of input expense is for machines and equipment—items which cannot pay for themselves over a short period of time—intermediate credit repayable over a period of several years is required.

Many lenders are adapting their practices to this new need for farm credit. In so doing, they may influence management of the farm by offering to supply funds for some purposes, but not for others.

Large loans are more readily obtainable when used for items like feeder cattle or machinery, both of which serve as chattels. Smaller loans are likely for an input like fertilizer which has only the promise of future income and no chattel value. (2)




Collateral Is Not Best Criterion For Predicting Repayment of Loans

"Neither a borrower nor a lender be," isn't valid in today's economic world. Farm loans are here to stay.

Unfortunately there is no simple formula a lender can use to gauge the odds in favor of timely repayment—the best measure of a good loan.

There are, however, some guidelines a lender can follow in deciding before he approves a loan whether a prospective borrower has the ability, honesty and resources to repay his debt.

These "borrower characteristics" emerged from a survey of non-real estate loans to dairy farmers made in two Michigan counties by a Production Credit Association (PCA) and the



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SOCIAL SECURITY: FIGURING UP THE BENEFITS

Here are a few pointers for workers covered by social security on how to calculate the extent of coverage and the amount of benefits payable.

Twenty-two or 62, any worker covered by social security should know something about figuring his benefits. Unless he can estimate how much monthly income his widow and dependent children

would get if he died, he can't really gauge whether his present life insurance and other income is adequate. Nor can he plan his own retirement unless he knows what his social security retirement income will be.

Here are a few pointers on how to figure the extent of social security coverage and the amount of benefits. If you have any questions about your social security benefits, call, write or visit your nearest social security district office.

Extent of coverage: For a worker and his family to get social security monthly cash payments if he retires or dies, he must first have credit for a certain amount of work under social security (earned any time after 1936). The period of time a person must have spent in covered work to be insured for benefits is measured in *quarters of coverage*.

Any individual can find out how many quarters of coverage he has earned by sending a card to the Social Security Administration requesting this information. He should include his account number, date of birth, signature and (printed) name and address.

Most types of monthly benefits are payable to a worker, his dependents or survivors if the worker has been employed under social security long enough to be *fully insured*. (Table 1 will show you how many quarters you will need for full coverage.) No one needs more than 40 quarters of coverage to be fully insured. But remember, having a fully insured status means only that certain kinds of benefits may be payable—it does not determine the amount.

If a worker is not fully insured at the time of his death, benefits can still be paid to his widow and children if he was *currently insured*. This means he must have earned at least six quarters of coverage within the three years prior to his death.

Amount of benefits: The amount

of the retirement benefit or the amount of benefits that can be paid to dependents or survivors is based on the worker's average monthly earnings under social security.

This is the way to figure the average monthly earnings for most people:

(1) Count the years after 1955 (or after age 26, if later) up to but not including the year of death or retirement age. Use a minimum of two years for death cases, a minimum of five years for retirement cases—no matter how many years were actually involved.

(2) Select the same number of

years after 1950 in which earnings were highest. In other words, there are five extra years to choose from—an individual can skip the five years when income was lowest. The years chosen need not be consecutive. (Do not count more than \$3,600 a year for 1951-54; \$4,200 a year for 1955-58; \$4,800 a year for 1959-65; and \$6,600 for 1966 and later years.)

(3) Add the total earnings in the years selected and divide by the number of months in the years used. The result is the average monthly earnings.

Table 2 shows the amount of the worker's monthly benefit at age 65

and certain survivors' benefits by average monthly earnings. But a point to remember is this: If a worker and his wife start getting benefits before age 65, or if a widow starts getting benefits before 62, the amount of the monthly benefits will be permanently reduced. The amount of the reduction depends on the number of months the person gets benefits before reaching 65 (62 for widows).

Here are two sample problems to illustrate, step by step, the way to estimate the amount of survivors and retirement benefits under social security:

Problem 1: A widow is 35 at the

TABLE 1: ARE YOU FULLY INSURED? An individual is fully insured under social security if he has credit for one quarter of coverage for each year after 1950 and up to the year he dies or reaches retirement age (65 for men, 62 for women). In counting the years after 1950, the years before a person was age 22 are omitted. Any worker is fully insured if he has earned at least as many quarters of coverage as shown on the table below. No one needs more than 40 quarters of coverage to be fully insured.

Year the worker reaches age 65 (62 for women) or dies	Quarters of coverage needed
1957 or earlier	6
1967	16
1968	17
1969	18
1970	19
1971	20
1975	24
1979	28
1983	32
1987	36
1991 or later	40

TABLE 2: HOW MUCH WILL YOU BENEFIT? The amount of the retirement benefit or the amount of the benefits that can be paid to dependents or survivors is based on the worker's average earnings under social security. Below is a table showing old-age and survivors benefits for a few selected situations.

Status of beneficiary	Average monthly earnings of—					
	\$67	\$150	\$249	\$351	\$450	\$550
	Benefits					
Worker at age 65	\$44.00	\$78.20	\$100.60	\$124.20	\$146.00	\$168.00
Worker at age 62	35.20	62.60	80.50	99.40	116.80	134.40
Wife at age 65	22.00	39.10	50.30	62.10	73.00	84.00
Wife at age 62	16.50	24.40	37.80	46.60	54.80	63.00
One surviving child	44.00	58.70	75.50	93.20	109.50	126.00
Widow at age 62	44.00	64.40	83.00	102.50	120.50	138.60
Widow at age 60	38.10	56.00	71.90	88.80	104.40	120.10
Widow under 62 and one dependent child	66.00	117.40	151.00	186.40	219.00	252.00
Family maximum	66.00	120.00	199.20	280.80	328.00	368.00

NOTE: The benefits payable under social security may change as new legislation is passed. The payments shown in this table were in effect on June 1, 1966.

time of her husband's death in 1967; her only child is 13. Her husband had 40 quarters of coverage under social security and so was fully insured. What monthly benefits will the family receive? How long will they receive these benefits?

Solution: First figure the husband's average monthly earnings. There are 11 years after 1955 and up to 1967, the year the husband died. His total earnings for the 11 highest years after 1950 were \$46,332. Dividing the total earnings of \$46,332 by 132 (the number of months in 11 years) gives him an overall average of \$351 a month.

For average monthly earnings of \$351, the family benefit for a widow under 62 with one child under 18 is \$186.40 (from Table 2). The family will receive this payment for five years or until the child is 18. Then payments to the widow will stop. The child can continue to get benefits of \$93.20 per month until he is 22 if he is a full-time student. If the widow does not remarry, she can get payments of \$102.50 beginning at age 62 or \$88.80 at age 60.

Problem 2: A farmer retires at 65, at which time his wife is age 60. His covered earnings under social security averaged \$249 per month. What will be their combined social security income? When does it start?

Solution: Nothing is payable for the wife until she reaches 62. The payment for the husband is the monthly benefit at age 65 applicable to average monthly wages of \$249. This figure (from Table 2) is \$100.60 per month. If his wife applies for benefits at age 62, their check will be \$138.40. The payment to him does not change; he continues to receive \$100.60 since his checks started at age 65. But the payment to his wife amounts to \$37.80 (\$50.30 reduced by 36 months). If she waits until she is 65 to apply, she will get the full \$50.30 and their monthly check will be \$150.90. (3)

Who Owns the Land in Tennessee? The Odds Say Man and Wife, 7 to 1

Two out of every five dollars invested in agriculture in Tennessee are tied up in the land.

Thus, the distribution of agricultural wealth in the state, as elsewhere, is determined to a large extent by the pattern of land ownership.

And land ownership patterns across the nation have been shifting significantly as agriculture in general adjusts to a new world of technology. Tennessee is no exception to the trend.

The number of farms for example, dropped by a third from 1940 to 1959. The average size of farms increased during the same period from 75 to 102 acres. And

farms of more than 180 acres increased slightly in number, while the number of smaller farms declined by about 40 per cent.

At the latest count in 1960 there were about 253,000 owners of rural land in Tennessee. All told, they held a total of 18 million acres, most of it in private hands.

Individuals represented 97 per cent of the owners and held 92 per cent of the land worth 96 per cent of the total value. Corporate and government ownership made up the rest.

Individual owners as a group included husbands and wives, single men and women, partnerships or estates, and individuals plus partnerships or estates.

By far the most important of the lot were husbands and wives. They accounted for 70 per cent of the owners and about the same proportion of the total acreage and total value of the land.

A like proportion of the land was owner operated.

Some 85 per cent of the owners lived in rural areas, 15 per cent in cities. Many of the rural residents, however, held their property simply as residences.

While most of the owners who operated their own land lived in rural areas, the nonoperators were as apt to live in the city.

Farmers, not surprisingly, were the major owners of farmland. Full-time, part-time, or retired farmers owned over four-fifths of the farmland in the state, two-thirds of the forest land, and about one-fourth of all other rural land in Tennessee.

Land used for urban purposes increased by 42 per cent and idle land increased by 7 per cent between 1955 and 1960. These increases came from the net decrease in cropland and woodland. It was the full-time farmer who most often contributed to the transfer from cropland to idle land. But land owned by housewives, laborers and retired farmers was the main source of land transferred to urban uses. (5)

Time-saving Tactics

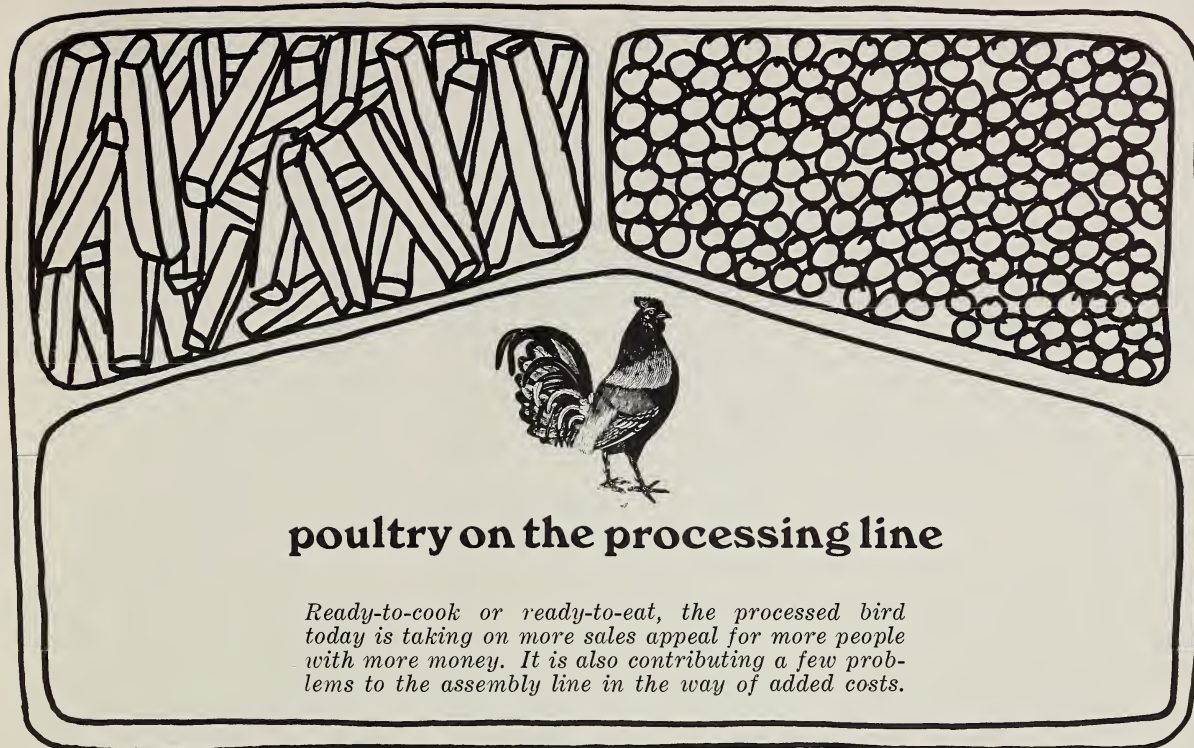
Moonlighting may add to a farmer's income but it also adds to the demands on his time.

A recent study of part-time farmers in southern Michigan—most of whom held full-time, off-farm jobs—illustrates two of the tactics these men used to cut down on farm work without reducing farm income.

First, while the majority of full-time farmers in the area operated livestock or dairy farms, the part-time group stuck to cash grain farming. Reason: Though the returns from livestock operations were slightly higher, so were the demands on operator labor.

The livestock and dairy enterprises required more time to care for animals. And the large capital investments necessary implied the need for a large-scale operation which fully utilized the farmer's time. Much less capital was required for efficient use of labor on cash grain farms.

The part-time farmers as a group also participated more fully in cropland diversion programs than did the full-time men. Part-time farmers held about 12 per cent of their cropland as idle reserve under the 1962 Feed Grain Program, compared with only 5 per cent for the full-time farmers. (4)



First they took the feathers off the birds. Then they cleaned them out for the housewife.

And since that postwar innovation in the marketing of poultry, the industry hasn't stopped dreaming up new ways to process the raw products—chicken and turkey.

All the changes are designed to add variety to the housewife's menus while subtracting labor from her kitchen duty.

And all, incidentally, are designed to increase sales for what has come to be known as the "further processed" poultry industry, an increasingly important part of the business.

There are good reasons for its growing prominence.

New processes, recent developments in food engineering have made it possible to process an ever-increasing array of poultry products.

And the continuing affluence of the American public has provided

a willing market for greater convenience in the form of further processing.

Only a decade ago, a scant 200 million pounds of ready-to-cook poultry went into further-processed products. Today, the volume is more nearly 750 million pounds.

A recent ERS study profiles this relatively young industry. A few highlights of the study:

—Big plants produce the greatest number of product lines, smallest plants the fewest. But some of the big plants specialize, and some of the small ones maintain a variety of output.

Such products as boned and canned chicken and turkey in bulk, cooked chicken parts, turkey rolls, roasts and breasts, canned whole chicken, pies and dinners all tend to be the products of the larger plants.

Soup in general may be produced in any size plant, big or small.

But the small company is the

one most likely to turn out the specialty soups as well as such foods as chicken salad and gourmet and foreign foods.

—The most important items, listed by the amount of poultry meat used, are: rolls, roasts, and breasts; soups, broths, consommés and so forth; potpies; canned boned meat; cooked chicken parts; turkey dinners; fried chicken dinners; and canned whole birds.

—Much of the industry is decidedly optimistic about the future. In a sample of 111 plants, about three-fourths indicated that output of all products in their plant was increasing rapidly or at least holding its own.

But the smaller the plant, the less the optimism. In fact some of the smaller ones have dropped particular product lines or have gone out of the business of further processing altogether.

—The optimism-pessimism scale can be applied to individual product groups, too.

The plants indicated a relatively high degree of optimism about the future growth of such items as deboned meat, pies, dinners, turkey rolls and roasts, cooked chicken parts and ground, sliced and prepared meat items.

The companies felt the output of soups would also continue to rise, but not so fast. The volume of gourmet and specialty items, foreign food preparations and salads would also increase at a slower rate.

But pessimism takes over when it comes to the growth rate for such products as hash, stews, chicken and dumplings, creamed items and poultry items mixed with noodles.

—Where does the meat come from? Though most of the plants in the survey get their supplies from a single source, more than half of the biggest plants use more than one supplier.

And the larger the plant, the farther it reaches for its supplies. But this, too, depends. A large plant in the Midwest, for example, may find ample supplies of fowl and turkey nearer at hand than plants in the Northeast. The big plant in the South may find all the broilers it needs close by.

Most of the plants debone their own meat. Thus, for 70 per cent of the plants in the study the most

important form of poultry entering the plants is live or ready-to-cook birds.

—Direct selling is common enough for further processed items. But brokers do enter the picture far more than is common for ready-to-cook poultry. In fact, brokers handle all the output for some of the plants. Brokers offer the advantages of specialization, handling export sales, or sales to institutions.

—Firms and products have multiplied rapidly in recent years. Even so, output, characteristically, is concentrated in a few large plants.

Based on a 1963-64 survey of 137 plants, the 10 largest ones handled nearly three-fifths of the poultry meat used in further processing.

Population, as well as poultry production, affects location of plants. Georgia, for instance, leads all other states for poultry production, with 13 per cent of total U.S. output. But it has only 2 or 3 per cent of the nation's population and the same proportion of the further processed poultry.

New York, with less than one-half of one per cent of total poultry production, but more than 9 per cent of the population, has more than 8 per cent of the further processing volume. (6)

Cigarette Use Posts a New Record As Populations and Incomes Increase

U.S. smokers lit a record number of cigarettes last year.

In 1966, U.S. output and consumption of cigarettes both exceeded any previous year. Total output for the year is estimated at 571 billion cigarettes—2½ per cent above 1965 and nearly 6 per cents above 1964, the year the Surgeon General's report on smoking and health was published.

Consumption by U.S. smokers—at 542 billion cigarettes—took 95 per cent of the output in 1966. Exports to foreign markets and shipments to Puerto Rico accounted for most of the rest.

The 1966 increase in consumption by U.S. smokers resulted largely from more people of smoking age, higher levels of income, and heavier shipments to the armed forces overseas. The same factors should push the use of cigarettes somewhat ahead again this year.

In addition to cigarettes, U.S. smokers used an estimated 8,360 million cigars and cigarillos in 1966—about 3 per cent less than in 1965. The 1966 figure is 8 per cent below the record 1964 level. But it is still 15 per cent higher than in 1963. (7)

THE WELL-DRESSED BIRDS: Use of poultry meat in further processing, 1963-64

Product	Young chickens	Mature chickens	Turkeys	Combined
Cooked chicken parts and whole birds	41.3	0.2	—	8.7
Fried chicken dinners	30.6	—	—	6.4
Rolls, roasts, breasts	6.7	—	39.1	15.7
Turkey dinners	—	—	18.9	6.9
Pot pies	0.5	14.3	11.5	10.4
Canned whole birds	—	10.8	—	4.6
Canned boned meat	4.3	15.7	3.0	8.7
Soup, broth, bouillon, consomme, soup base	0.2	22.4	3.1	10.7
Meat, parts, giblets, fat (in bulk)	5.0	24.4	17.2	17.7
Other products*	11.4	12.2	7.2	10.2
Total	100.0	100.0	100.0	100.0
Pounds of poultry meat used	129,250,725	264,462,067	228,053,774	621,766,566

* Includes steaks, patties, croquettes, sliced and prepared meats, with noodles or fricassee, hash, stew, baby foods, foreign and gourmet items and salads.

Science Fiction to Scientific Kitchen, Atom Treatment for Food Nearly Here

Outer space isn't way out any more. It's in. Daily headlines herald scientific advances putting man ever closer to the moon.

There's less fanfare about what's being put into inner spaces—our digestive systems. In the future of the human race, however, new concepts of food processing may have greater impact than moon landings.

One of these is irradiation.

The question is no longer "if" it is feasible. Rather, it is "how soon will we see irradiated foods on the market? Answer: probably in two to five years.

Despite a slow start, basic work in food irradiation has been fruitful. The first related patent was taken out in France by Otto Wüst in 1930. There was little follow-up until 1947. Since then, our federal government alone has spent close to \$50 million on research and pilot plants.

What's the score today?

Food irradiation now appears likely to create great changes in our food processing economy.

It ties in well with other ways of lengthening storage life of foods and is useful in prolonging quality of fresh products.

Cost per pound may be competitive with other methods. Doubling or tripling the life of certain fresh fruits by irradiation pasteurization could cost as little as 1/2 to 1 1/2 cents per pound. This would be comparable to the cost of some freezing methods. Cost comparisons cannot be assessed, however, until commercial production of irradiated foods is a reality.

The U.S. Food and Drug Administration has approved (as of June 1966) use of irradiation on:

Bacon. The U.S. Natick Laboratories (an agency of the Army Materiel Command)—involved in food research—recently took delivery of 30,000 pounds of bacon sterilized by irradiation. It has

the advantage of not needing refrigeration. So "bacon for breakfast" may be in store for some of our troops in the field in Vietnam.

Wheat and wheat flour. Wheat flour—difficult to disinfest with chemicals—may be "de-bugged" with irradiation. The Atomic Energy Commission has recently built an irradiator to be operated by the USDA for work on grains, with emphasis on wheat.

Potatoes. White potatoes irradiated to discourage sprouting have also been FDA approved. Potatoes thus treated by a Canadian plant have been sold for making chips and french fries, and some have gone to the fresh market. Buyers were aware of the irradiation treatment and no adverse reaction has been reported.

Approval of other items, such as canned ham, fresh strawberries, oranges and some fish, is pending.

The door is thus opening for irradiated foods in many forms—including poultry treated for salmonellae, and pork for trichina, the organism causing trichinosis.

There's still work to be done. But much of it now will be testing and evaluating commercial production, markets and consumer acceptance before "atomation" becomes a recognized handmaiden of automation. (8)

Rise in Rice

Rice is nice.

At least the American consumer seems to think so.

Rice is the only cereal to register a substantial increase in per capita food use in the United States.

Per capita consumption of wheat and other grains has been on the decline. True, a few individual items such as macaroni, wheat breakfast cereals and some corn products have increased per capita use, but overall there has been a drop.

Use of rice in cereals was about 1.3 million hundredweight in the mid-1950s, about 2 million in the early 1960s. (9)

Avocado Ice Cream?—Perhaps Not; But Frozen Salad Might Boost Sales

What has the hide of an alligator, a heart of stone, a tender flesh and an uncertain age?

In the produce trade, the answer might well be the avocado, Mexico's gift to the world of salads.

Delicious when ripe, the fruit goes from rock-hard to overripe, almost while you look at it. As a result, a normal year sees too many avocados left in the grove, or discarded at the packing shed. They are either too ripe for shipping, or they are misshapen and too big, or too small for the trade.

A satisfactory way to process avocados that have gone beyond the useful state for the fresh market would be a boon to the trade. Such a process could help salvage that large portion of the annual crop which is a dead loss.

Specialists in the Economic Research Service and the Agricultural Research Service think they may have just the process to do the job. Fittingly, the process is a variation on *guacamole* salad, a recipe which comes from the motherland of the fruit itself.

Forecasts of the market potential for frozen guacamole salad are tentative at best. Nevertheless, the signs are more favorable than not.

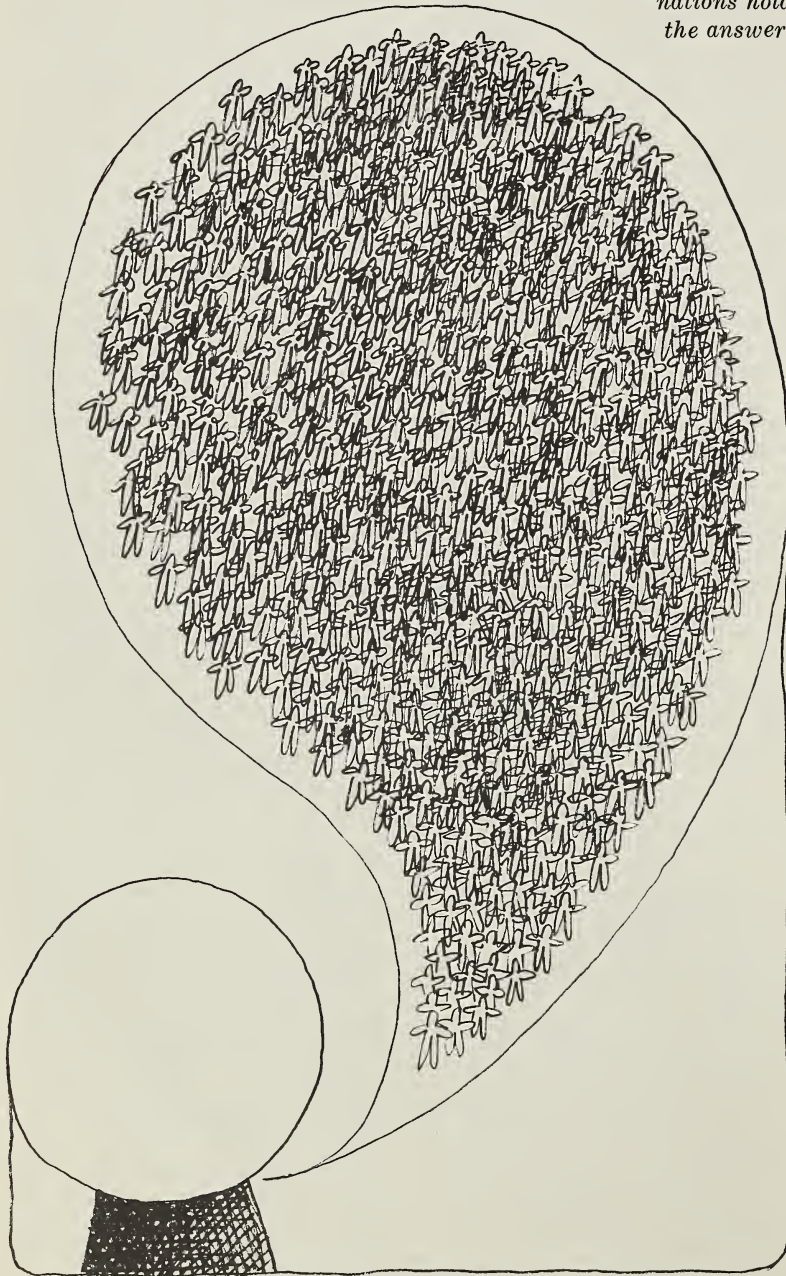
Reactions in the few restaurants in the New Orleans area, where the processed avocado was tested, tended to be on the plus side. Some of the kitchens used the canned, frozen avocado paste as a salad, others as a dip, a hot vegetable, and even as a soup.

The restaurant operators thought the estimated cost of \$8 per case (twelve 32-ounce cans) reasonable, even though it meant a higher cost per serving than other competing products.

But the specialists suggest that the household market would be more profitable than restaurants and other institutional outlets, though little study has been made of consumer attitudes. (10)

FOOD AND THE FUTURE

Problem: Will man be able to feed his family in the year 2000? Newly developing nations hold the answer.



Can the world produce enough food to keep pace with increasing population?

Few questions are receiving as much attention today as this one. And the answers are as diverse as the problems involved.

There is unanimity of opinion, however, that the main cause for concern is the rapid population growth in the less-developed areas of the world.

Man's family multiplied at a small fraction of 1 per cent a year until it reached about 500 million in the year 1500. Not until 1800 did it reach 1 billion. Now after tripling in the subsequent 150 years, it's about 3.2 billion.

Population projections to the year 2000, based on various assumptions, range from 4½ billion to over 6 billion.

Whatever figure history proves right, food supplies will have to be much, much bigger than they are today to meet the needs of the oncoming generations.

Between 1960 and 1964, population increased only 1.1 per cent in the more-developed areas. It rose 2.1 per cent in the less-developed.

Two-thirds of the world now lives in the less-developed regions. And at current birth rates, 77 per cent of the world would be living in the underdeveloped areas by the year 2000.

Meanwhile, what's been happening to world food supplies?

The less-developed countries have expanded their total agricultural output a little more rapidly than the developed nations in the past 10 years.

Yet the gap between developing and developed parts of the globe in food output per person has continued to widen. Why?

The more rapid expansion of population in the less-developed countries is, of course, the major factor.

At the same time, income levels in these countries have improved somewhat. So while their total agricultural output has generally kept up with population, it has

not gone up enough to meet the stronger demand for food that has resulted from the higher incomes.

A third major factor is productivity per acre. While there has been some improvement in yields of the less-developed countries, it has been slight compared with the sharp increases in the developed areas.

Changes in grain production by regions of the world between 1951-55 and 1961-65 give a fair idea of the situation.

In the United States, harvested grain area dropped nearly 20 per cent but yield per acre went up 60 per cent. Other developed countries also showed sharp increases in per acre yields and in total and per capita production.

In contrast, harvested grain area in most of less-developed Asia, Africa and Latin America rose 15 per cent. Yields per acre improved only about 10 per cent from extremely low levels. And per capita grain output declined about 1 per cent.

The impact of increasing demand for food in the less-developed countries is also illustrated by the grain situation.

In the 1934-38 period, the less-developed areas had net *exports* of 14 million tons of grain a year.

In 1965, the same regions had net *imports* of 16.5 million tons of grain, despite a 55 per cent increase in their grain output.

A look at the grain situation alone evokes the question, "Where are food supplies for the year 2000 coming from?"

To be sure, the United States and other developed countries have the capacity for rapid expansion of agricultural production and exports. Some steps have already been taken in this direction.

In forward planning, however, a distinction must be drawn between food to alleviate hunger and food to meet sound economic demand.

Increased production to expand foreign food aid programs means larger public and private expendi-

tures based on a premise that is more compassionate than commercial.

The prospect of perpetual food aid programs is neither economically healthful nor plausible for benefactor nations.

It is thus increasingly apparent that the developing countries themselves must produce most of the additional food they will need to feed their growing populations and to develop their economies so that they can take their place in the world marketplace.

This is why advancement of agriculture and "self-help" in the less-developed areas are being given high priority in reformulated U.S. aid programs and those of other nations and international organizations.

Many countries in Latin America and in Africa could be cultivating more land. Even in Asia and North Africa, where there is a shortage of land suitable for food crops, there's vast room for

improving crop yields.

Crop yields in most of the less-developed world are very low. Rice yields are nearly four times higher in Japan and the U.S. than in India or the Philippines.

Corn and wheat yields average three to five times higher in the developed countries than in the less-developed.

Better seed, improved tillage methods, harnessing of available water and power supplies, control of pests and diseases—and ample use of fertilizer—spell much of the difference. (See January 1967 Farm Index.)

Yet, in the long sweep of agricultural history, high yields are fairly recent. Japan's rice yields didn't "take off" until after 1880. And U.S. corn yields not until after 1940.

This suggests that comparable achievements could be around the corner in at least some of the countries now in the first stages of economic development. (11)

FULL BUT HUNGRY: Most people in Southeast Asia—particularly in the rice exporting nations of Burma, Thailand and Cambodia—are not physically hungry. But their diets are still inadequate nutritionally.

Two-thirds of the total calorie intake is supplied by cereals, mainly rice. High protein foods, such as meat, fish, eggs and dairy products, provide less than 10 per cent of the total calories, compared with 33 per cent in the United States. Per capita calorie consumption in the region averages 2,125 a day, about 200 calories short of what is considered adequate for the area. (12)

Country	Daily per capita calorie consumption		
	Cereals	Other	Total
	Number		
Burma	1,520	650	2,170
Cambodia	1,585	475	2,060
Indonesia	1,175	985	2,160
Laos	1,790	330	2,100
States of Malaya	1,443	957	2,400
Philippines	1,229	771	2,000
South Vietnam	1,545	475	2,020
Thailand	1,448	672	2,120

Ocean Freight for Grain Exports May Be Third of Cost to Customer

The United States has been supplying over two-fifths of all the wheat and more than half of all the corn moving in world trade in recent years.

An armada of merchant ships plies the seas year 'round carrying grain cargoes to buyers in far-away lands. And freight costs are important to these buyers.

Cost of exporting grain from the U.S. to Japan, for example, averages 25.5 cents a bushel (about \$8.49 a ton). This is nearly a third of the delivery cost of getting a bushel of wheat from an American farm to a Japanese port.

In contrast to many services, ocean freight rates in general have not increased significantly in the past five years though they vary widely.

Average voyage charter rates per ton for corn, wheat and soybeans in July-September 1966 showed the following range:

\$2.68 per ton on a foreign ship sailing from a U.S. north Atlantic port to Antwerp, Rotterdam or Amsterdam;

\$25.61 per ton on a U.S. flag ship from a Gulf port to the east coast of India.

World merchant fleet capacity in the past 20 years has grown from about 100 million metric tons to over 223 million. Newest giant carriers have a 100,000 to 200,000 ton capacity, in contrast to the traditional 16,000-25,000. (13)

We're Only No. 3

The United States has now slipped to No. 3 position as a world importer of farm products, though it is still the biggest agricultural exporter.

West Germany became the world's second largest agricultural importer in 1965—a position held by the U.S. for many years. West German imports rose to \$4.8 billion worth, while those by the U.S. remained fairly stable at \$4.1 billion.

The United Kingdom continued to hold first place, with farm product imports of \$5.8 billion in 1965. Japan ranks fourth (\$2.8 billion); France, fifth (\$2.6 billion); Italy, sixth (\$2.2 billion); and the Netherlands, seventh (\$1.3 billion). Ranking is on c.i.f. values. (14)

Latin Leaders Chipping Away at Wall Of Opposition to Economic Progress

Four centuries of cultural rigidity are giving way to modernization in Latin America.

These factors show up in a recent study of social and economic institutions in Latin America. According to the study, such programs as public welfare, social justice and agrarian reform are now receiving general support. Most countries are also implementing crash educational programs aimed at eliminating illiteracy.

Some progress is being made in improving the productivity, use and distribution of farmlands.

Examples of progress did not, of course, appear overnight. After the Mexican revolution of 1910, many large estates were broken up in an attempt to give the peasants land. Mexican agrarian reform programs are based on the idea of the pre-Columbian Aztec communal farm, the *ejido*, in which land titles were awarded to farmers according to their need.

Bolivia also has made attempts at land redistribution as part of its broad program of social development. Bolivian leaders are seeking to raise the educational level of the nation and to improve the health and general living standards of the peasants.

Most other nations in Latin America are also committed to some form of agrarian reform, but there have been few dramatic results so far. Frequently, changes inaugurated in the name of progress have done little to improve the peasants' lot.

At Punta del Este in 1961, all the American nations pledged themselves to improved programs for free education.

Since population is increasing faster in Latin America than in any other region of the world, the educational problem becomes an increasingly difficult one. Venezuela, Ecuador and Honduras have been building elementary schools at a rate almost double that of population growth, but few other nations equal these strides. The fact that Latin America is now facing its problems is in itself a sign of modernization. (15)

Foreign Spotlight

BRAZIL. New Brazilian import tariffs are slated for publication March 1, 1967. At the same time, the highly restrictive "special import category"—including fruits, vegetable oils and cotton seed—will be abolished. The new tariff policy will cut import costs as much as 80 per cent and thus lower costs of imported raw material to domestic industry.

NORWAY. Farm income is expected to rise about \$25 million in fiscal 1967 under a recently ratified 2-year price and policy agreement between the Norwegian government and farmers' unions, effective to June 30, 1968. Most of the increase will be in producer prices for grains (4 per cent), whole milk (5 per cent) and meat (8 per cent). Also, government support will be continued for agricultural exports, acreage programs, transport and storage. (16)

RURAL PEOPLE IN THE AMERICAN ECONOMY. Economic Development Division. AER-101.

This report analyzes rural America from a number of viewpoints—size and characteristics of rural population, well-being, ways of life and making a living, troubled areas, current economic changes and prospects. Planning for the economic development of rural America is a major theme. (See July through October 1966 Farm Indexes.)

SEASONAL WORK PATTERNS OF THE HIRED FARM WORKING FORCE OF 1964. A. Rapton, Economic Development Division. AER-102.

Because of the highly seasonal nature of agriculture, the total number of persons doing hired farm work during a year differs considerably from the number employed in any one month. A small segment of the total number of people who do farm wage work in a year (about one-fourth) work on farms rather regularly.

EFFECT OF PRODUCT PRICE RELATIONSHIPS ON FARM ORGANIZATION AND INCOME IN THE PALOUSE REGION OF WASHINGTON AND IDAHO. N. K. Whittlesey, I. A. Noteboom and W. R. Butcher, Washington Agricultural Experiment Station in cooperation with the Farm Production Economics Division. Wash. Agri. Expt. Sta. Bul. 674.

This study focuses on adjustment possibilities for farmers in the wheat-pea area of Washington and Idaho.



recent publications

The publications listed here are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective states.

A SURVEY OF MIGRANT FARM-WORKER HOUSING IN OREGON. M. J. Conklin, Oregon Agricultural Experiment Station, and R. C. McElroy, Farm Production Economics Division. Ore. Agri. Expt. Sta. Bul. 602.

Housing plays an important part in attracting and holding migrant farmworkers needed in

producing fruits and vegetables in Oregon. Some objectives of this study were to determine what housing is now available; its adequacy in attracting and holding migrant labor; and growers' estimates of future housing needs.

SAUDI ARABIA: SUPPLY AND DEMAND PROJECTIONS FOR FARM PRODUCTS TO 1975, WITH IMPLICATIONS FOR U.S. EXPORTS. L. E. Moe, Foreign Regional Analysis Division. ERS-For. 168.

Saudi Arabia is expected to substantially increase its imports of feed grains, fresh fruits and vegetables, dairy products and vegetable oils through 1975. But unless there is a shift in present trends, the United States likely will continue to be an insignificant supplier of all these commodities through 1975. Well-planned promotional efforts would probably have positive effects on U.S. sales of farm commodities to Saudi Arabia.

THE AGRICULTURAL ECONOMY OF FINLAND. G. R. Edwards and G. W. Abbott, Foreign Regional Analysis Division. ERS-For. 169.

Finland's major source of agricultural imports is the Soviet Union, with which it has a bilateral trade agreement. Most of Finland's agricultural exports are sold to Western European countries. Finland imports only small quantities of agricultural products from the United States, but their value far exceeds the value of Finnish exports to the United States.

Numbers in parentheses at end of stories refer to sources listed below:

1. E. I. Reinsel and J. Brake, Borrower Characteristics Related to Farm Loan Repayment, Mich. Agri. Expt. Sta. (M*); 2. G. D. Irwin (SM); 3. R. R. Botts, Farmers' Handbook of Financial Calculations and Physical Measurements, AH-230—Revised Nov. '66 (P); 4. R. D. Duvick, Part-Time Farming in Two Areas of Southern Michigan, 1959 and 1963: Changes and Similarities, Mich. Agri. Expt. Sta. Article 49-8 (P*); 5. J. A. Martin and J. W. McLeary, Rural Landownership and Use in Tennessee, Tenn. Agri. Expt. Sta. (M*); 6. G. B. Rogers and H. D. Smith, Further Processed Industry and Impacts of Economics of Scale in Poultry Plants, Md. Agri. Expt. Sta. Misc. Pub. 505 (P*); 7. Tobacco Situation, TS-118 (P); 8. K. Bird,

Comparative Economics of Processed Foods (S); 9. Rice Situation, RS-11 (P); 10. O. C. Hester and T. S. Stephens (SM); 11. R. P. Christensen, United States' Role in Alleviating World Hunger (S); 12. B. A. Chugg (SM); 13. T. Q. Hutchinson, "Ocean Freight Rates for Export Grain," For. Agr. Trade, Feb. '66 (P); 14. Foreign Agricultural Trade, November '66 (P); 15. O. E. Leonard (SM); 16. Foreign Regional Analysis Division (SM); 17. C. B. Singleton (SM).

*Speech (S); published report (P); unpublished manuscript (M); special material (SM); *State publications may be obtained only by writing to the experiment station or university cited.*

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Zanzibar Adds Spice to Life

There'll be plenty of cloves to stud Easter hams this spring.

The word "stud" is quite appropriate because the clove gets its name from *clou*, the French word for nail, which it resembles. But it's really the dried flower bud of a tropical tree.

The 1966 world commercial harvest of the fragrant spice with the warm, sharp taste was a big one: over 20,000 metric tons.

The bounteous crop wasn't unexpected because clove trees are one of those eccentric gifts of nature with a big yield one year and a small one the next. Last year was an "on" year.

Most of the cloves that enter international trade come from the fertile coral islands of Zanzibar and Pemba—150 miles off the coast of East Africa.

When in bloom, the dense forests of clove trees not only perfume the air of these two islands but also provide about four-fifths of the world's clove supply. Another island in the area—Madagascar—is the other major source of supply.

In the U.S., whole cloves are used mainly in pickling, preserving and garnishing. Ground cloves add flavor to baked goods, vegetables and desserts.

Clove oil—distilled from buds and stems—goes into gum and candy, medicines and cosmetics, and vanillin, a vanilla substitute.

Elsewhere in the world, people have found other uses for cloves. About two-thirds of the world supply goes to the Far East, mainly Indonesia, where it's ground and mixed with tobacco in cigarettes. (17)

THE FARM INDEX

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